



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO	
09/605,201	06/27/2000	David Black	E0295/7146	4782	
75	90 03/14/2003				
Matthew B Lowrie c/o Wolf Greenfield & Sacks PC 600 Atlantic Avenue			EXAMINER		
			PEYTON, TAMMARA R		
Boston, MA 02210-2211			ART UNIT	ART UNIT PAPER NUMBER 2182	
			2182		
			DATE MAILED: 03/14/2003		

Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of them may be available under the provisions of 3 CFR 1.158(a). In no event, however, may a reply be limely filled Extensions of them may be available under the provisions of 3 CFR 1.158(a). In no event, however, may a reply be limely filled If the period for reply specified above is less than theiry (30) days, a reply within the stability minimum of thirty (30) days, will be considered timely. If No period for reply specified above is less than theiry (30) days, a reply within the stability provided for reply selected to the communication. Falsare to reply within the set or extended period for reply will. by stabulor, cause the application to become ADAMDONED (30 U.S.C. § 135). Responsive to communication(s) filled on 27 June 2000. Status 1) Responsive to communication(s) filled on 27 June 2000. 2a) This action is FINAL. 2b) This action is non-final. 3 Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1:30 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) 1:30 is/are allowed. 6) Claim(s) 1:30 is/are rejected. 7) Claim(s) is/are soljected to by the Examiner. 10) The drawing(s) filed on is/are: a) cocepted or b) objected to by the Examiner. Application Papers Application Papers 11) The proposed drawing correction filed on is/are: a) approved by the Examiner. 12) The cath or declaration is objected to by the Examiner. 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) Mone of: 1 Certified copies of the priority documents have been received. 2 Certified copies of the priority documents have been received in this National Stage application from the International B	•		Application No.	Applicant(s)			
Tammara R Peyton 2182 - The MALLING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MALLING DATE OF THIS COMMUNICATION. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statisticy minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (31) eays, a reply within the statistics of the statistic timely. And proper than a statistic timely the statistic period of this communication. A period for reply specified and the statistic period of this communication. Status Status Status Status Status Status Statistic reply application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims Application of Claims Application of Claims Application of Claims Application is a state and state a	Office Action Summary		09/605,201	BLACK, DAVID			
- The MALING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MALING DATE OF THIS COMMUNICATION. Extensions of them may be swelled under the previous of 3 CFR 1.136(s). In or overt, however, may a raply be timely fixed attes 6X (8) MONTHS from the nealing date of this communication. Extensions of them may be swelled under the previous of 3 CFR 1.136(s). In or overt, however, may a raply be timely fixed attes 6X (8) MONTHS from the mealing date of this communication. False to reply within the sactor extended period for raply will, by statuto, cause the application is become ARAMONED (25 U.S.C. § 135). Along raply received by the fOrci abusine the minimum simal from the maling date of this communication, even if timely fixed, may reduce any secure and the major and			Examiner	Art Unit			
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Can be all the procession of 27 CR 1.136(a). In no event, however, may a reply be timely fled - Can be all the procession of 27 CR 1.136(a). In no event, however, may a reply be timely fled - Can be all the procession of 27 CR 1.136(a). In no event, however, may a reply be timely fled - Can be all the procession of the procession of 27 CR 1.136(a). In no event, however, may a reply be timely fled - Can be all the procession of the procession of 27 CR 1.136(a). In no event, however, may a reply be timely fled - If NO period for reply is apposed above, the maximum statutory period will apply and vill expres SIX (8) MONTHS from the mailing date of this communication If NO period for reply a specified above, the maximum statutory period will apply and vill expres SIX (8) MONTHS from the mailing date of this communication, even if timely fled, may reduce any secure of the procession of the proc			Tammara R Peyton	2182			
THE MAILING DATE OF THIS COMMUNICATION. Edamisors of time may be available under the provisions of 37 CPR 1.13(a). In no event, however, may a reply be timely filed after SIX (6) MONTIS from the mailing also of this communication. If the period reply specified above is less than the Tity (30) days, a reply within the statistical provision of the provision of							
1) Responsive to communication(s) filed on 27 June 2000. 2a This action is FINAL. 2b This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-30 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5 Claim(s) is/are allowed. 6 Claim(s) is/are allowed. 6 Claim(s) is/are rejected. 7 Claim(s) is/are objected to. 8 Claim(s) is/are objected to. 8 Claim(s) is/are objected to by the Examiner. 10 The presidential of the drawing(s) filed on is/are: all accepted or b objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: all approved by disapproved by the Examiner. 12 The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13 Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1 Certified copies of the priority documents have been received in Application No. 3 Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). *See the attached detailed Office action for a list of the certified copies not received. 14 Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15 Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received.	THE MAILING DATE OF - Extensions of time may be availar after SIX (6) MONTHS from the religion of the period for reply specified at 1. If NO period for reply is specified at 1. Failure to reply within the set or earned patent term adjustment.	THIS COMMUNICATION. Able under the provisions of 37 CFR 1.13 mailing date of this communication. Boove is less than thirty (30) days, a reply above, the maximum statutory period vextended period for reply will, by statute ater than three months after the mailing	36(a). In no event, however, may a reply be ting within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).			
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-30 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) is/are objected to. 8) Claim(s) is/are objected to. 8) Claim(s) is/are objected to by the Examiner. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in his National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s)	1) Responsive to cor	mmunication(s) filed on 27 J	<u>lune 2000</u> .				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-30 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) is/are objected to. 8) Claim(s) is/are objected to. 8) Claim(s) is/are objected to by the Examiner. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in his National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s)	<u> </u>	· · ·					
4) □ Claim(s) 1-30 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) □ Claim(s) is/are allowed. 6) □ Claim(s) is/are rejected. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or election requirement. Application Papers 9) □ The specification is objected to by the Examiner. 10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) □ The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) □ All b) □ Some * c) □ None of: 1. □ Certified copies of the priority documents have been received. 2. □ Certified copies of the priority documents have been received in Application No 3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) □ The translation of the foreign language provisional application has been received. 15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1 □ Interview Summary (PTO-413) Paper No(s) 5 □ Notice of References Cited (PTO-892) 2 □ Notice of Oraftsperson's Patent Drawing Review (PTO-948)	3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
4a) Of the above claim(s) is/are withdrawn from consideration. 5) □ Claim(s) is/are allowed. 6) ☒ Claim(s) is/are rejected. 7) □ Claim(s) is/are rejected. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or election requirement. Application Papers 9) □ The specification is objected to by the Examiner. 10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) □ The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. § 119 and 120 13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) □ All b) □ Some * c) □ None of: 1. □ Certified copies of the priority documents have been received. 2. □ Certified copies of the priority documents have been received in Application No 3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) □ The translation of the foreign language provisional application has been received. 15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1 Notice of References Cited (PTO-892) Online of Informal Patent Application (PTO-152)	_						
5) □ Claim(s) is/are allowed. 6) ☒ Claim(s) is/are rejected. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or election requirement. Application Papers 9) □ The specification is objected to by the Examiner. 10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) □ The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) □ All b) □ Some * c) □ None of: 1. □ Certified copies of the priority documents have been received in Application No 3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 119(e) (to a provisional application). a) □ The translation of the foreign language provisional application has been received. 15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1 □ Notice of References Cited (PTO-892) 3 □ Notice of Draftsperson's Patent Drawing Review (PTO-948)							
6) Claim(s) 1-30 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some *c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) Interview Summary (PTO-413) Paper No(s).							
7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Traftsperson's Patent Drawing Review (PTO-948)	<u> </u>						
8 Claim(s) are subject to restriction and/or election requirement. Application Papers 9 The specification is objected to by the Examiner. 10 The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11 The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12 The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13 Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121. Attachment(s) 10 Notice of References Cited (PTO-892) 21 Notice of Traftsperson's Patent Drawing Review (PTO-948)		•					
Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Informal Patent Application (PTO-152)	7) Claim(s) is/a	are objected to.					
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s) 1) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	, , , 	e subject to restriction and/o	r election requirement.	•			
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	9) ☐ The specification is	objected to by the Examine	r.				
11) The proposed drawing correction filed on is: a) _ approved b) _ disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Praftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.						
If approved, corrected drawings are required in reply to this Office action. 12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
12) The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s)	11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved by the Examiner.						
Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s) Notice of Draftsperson's Patent Drawing Review (PTO-948)	If approved, corrected drawings are required in reply to this Office action.						
13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 1 Interview Summary (PTO-413) Paper No(s)	12) The oath or declaration is objected to by the Examiner.						
a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	Priority under 35 U.S.C. §§	119 and 120					
1. ☐ Certified copies of the priority documents have been received. 2. ☐ Certified copies of the priority documents have been received in Application No 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) ☐ The translation of the foreign language provisional application has been received. 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) ☑ Notice of References Cited (PTO-892) 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)	13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).						
2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 1 Notice of Informal Patent Application (PTO-152)	a) ☐ All b) ☐ Some	* c)☐ None of:					
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	1. Certified copies of the priority documents have been received.						
application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 1 Notice of Informal Patent Application (PTO-152)	2. Certified copies of the priority documents have been received in Application No						
a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 4) Interview Summary (PTO-413) Paper No(s) Notice of Informal Patent Application (PTO-152)	application from the International Bureau (PCT Rule 17.2(a)).						
15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 4) Interview Summary (PTO-413) Paper No(s) 5) Notice of Informal Patent Application (PTO-152)	14) Acknowledgment is	made of a claim for domesti	c priority under 35 U.S.C. § 119(e) (to a provisional application).			
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 4) Interview Summary (PTO-413) Paper No(s) 5) Notice of Informal Patent Application (PTO-152)							
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)							
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6) Other:	2) Notice of Draftsperson's Pate	nt Drawing Review (PTO-948)	5) Notice of Informal I				

Application/Control Number: 09/605,201

Art Unit: 2182

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: the acronym ELVID should be defined at least one in the first instance in order to clarify the claim language in subsequent instances. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admittance of Prior Art (AAPA) and McBrearty et al., (US 6,216,211).
- 3. As per claims 1, 6, and 8, AAPA discloses a method of moving a logical entity, wherein the logical entity being capable of being accessed by a plurality of host computers without having to freeze access to the logical entity. (Specification pg. 39, lines 9-19) What is needed is a method that when a copy of the logical entity is created, there if no fear of updates being made to the logical entity at the old location that would

Application/Control Number: 09/605,201

Art Unit: 2182

not be reflected wherein the copy is being created. *McBrearty* teaches a method of moving a logical entity (volume) from a first (backup/primary) storage element to a second (mirror backup) storage element, comprising:

 creating a copy of the logical entity on the second storage element (create an entry point to starting copying from the first storage element);

Page 3

- moving all reads of the logical entity from each of the first storage elements to the second storage element; and (based on an entry point, col. 2, lines 54-60)
- after the step of moving all reads, moving all writes to the logical entity to the second storage element.
- 4. *McBrearty* teaches a method of creating a copy of a logical entity and moving all reads of the logical entity from a backup/primary storage element to a mirror backup storage element. During the read operation, write operations are being mirrored to the mirror backup storage element. Those write block operations are marked stale, during the copying of the read operations. When the read operations are completed, the entry point thereto is deleted and the write block operations that were marked stale on the mirror backup storage are then resynchronized, i.e. updated. *McBrearty* teaches of updating write operations to the mirror backup storage only after all the read operations are completed. (Abstract, col. 5, lines 47-67, col. 6, lines 32-46)

Application/Control Number: 09/605,201 Page 4

Art Unit: 2182

5. It would have been obvious to one of ordinary skill to combine *McBrearty's* method of first moving all reads operations and then moving all updated write operation the second storage element with the prior art system. Doing so would allow data to be independently manipulated without causing interference with production processing thereby reducing the system resources required to backup and restore original data.

- 6. As per claim 16, AAPA in combination with McBrearty teaches a host comprising:
 - a processing unit (Fig.1); and
 - a memory interface module (Logical Volume Memory, 30, Fig. 1, 2) to
 permit accesses to a logical entity to be made to one physical storage
 location for read request and to a different physical storage location for a
 write request.
- 7. As per claim 20, *AAPA* in combination with *McBrearty* teaches a storage management controller for computer storage system that includes a plurality of storage elements, the storage management controller comprising:
 - an interface module (Logical Volume Memory, 30, Fig. 1, 2) to communicate with the storage elements; and
 - an entity movement manager (Logical Volume Memory, 30, Fig. 1, 2) to control separate moving of a read location and a write location for a specified logical entity.

Application/Control Number: 09/605,201 Page 5

Art Unit: 2182

8. As per claims 23, 24, and 26, *AAPA* in combination with *McBrearty* teaches a computer system, comprising:

- a plurality of host computers;
- a plurality of storage elements; and
- means for separately moving reads for a logical entity and writes for the logical entity from a first physical storage location on one of the storage elements to a second physical storage location on a different one of the storage elements.
- 9. As per claim 2, *AAPA* in combination with *McBrearty* teaches wherein creating comprises a step of establishing a mirror of the logical entity.
- 10. As per claim 3, *AAPA* in combination with *McBrearty* teaches of maintaining the mirror during the step of moving all reads.
- 11. As per claim 4, *AAPA* in combination with *McBrearty* teaches of during the step of moving all reads, passing all writes made to the logical entity at the first storage element to the copy on the second storage element.
- 12. As per claim 5, *AAPA* in combination with *McBrearty* teaches of during the step of moving all writes, passing all writes made to the logical entity at the first storage element to the copy on the second storage element.

Art Unit: 2182

- 13. As per claims 7, 12, and 21, *McBrearty* teaches of assigning an ID (minor number) for the logical volume. (*McBrearty*, col. 5, lines 10-14)
- 14. As per claims 9, 10, 27, and 28, *AAPA* teaches wherein the logical could be a hyper-volume or striped volume.
- 15. As per claims 11 and 29, *McBrearty* teaches wherein the logical entity is a partition.
- 16. As per claims 12 and 13, *McBrearty* teaches of translating the logical address to a physical address based on an ID assigned to each logical entity. It would have been obvious to one of ordinary skill that doing the moving of all reads and writes the translations are updated in order to preserve consistency. (*McBrearty*, col. 5, lines 30-38)
- 17. As per claim 15, *AAPA* in combination with *McBrearty* teaches a step of using a storage management controller to manage movement of the logical entity.
- 18. As per claims 17, 18, and 19, *McBrearty* teaches of a Logical Volume Memory (30, Fig. 1, 2) that is responsible for translating the logical address to a physical address based on an ID assigned to each logical entity. (*McBrearty*, col. 5, lines 30-38)

Application/Control Number: 09/605,201

Art Unit: 2182

As per claim 22, neither *AAPA* nor *McBrearty* teach wherein logical entity IDs is stored in a database. *McBrearty* teaches of storing the logical entity IDs in system memory. However, one of ordinary skill would readily recognize that it would not be out of the scope of the *AAPA-McBrearty* system to store the logical entity IDs in a separate database. Doing so would further add flexibility to the system.

Page 7

20. As per claims 25 and 30, *AAPA* in combination with *McBrearty* teaches the means for creating a copy of the logical entity on the second physical storage locations; means for moving all reads of the logical entity from each of the first physical storage to the second physical storage location; and means for moving all writes to the logical entity to the second physical storage location, after all of the reads have been moved to the second physical storage location.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammara Peyton whose telephone number is (703) 306-5508. The examiner can normally be reached between 6:30 - 4:00 from Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin, can be reached on (703) 308-3301. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Mailed responses to this action should be sent to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

Faxes for Official/formal communications intended for entry should be sent to:

(703) 746-7238, After Final (703)746-7239

or, for informal or draft communications, to:

(703) 746-7240 (please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to:

Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor

(Receptionist).

Tammara Peyton

March 7, 2003

JERFREY GAFFIN

PERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 2100